

THE PROGRESSIVE FARMER.

THE INDUSTRIAL AND EDUCATIONAL INTERESTS OF OUR PEOPLE PARAMOUNT TO ALL OTHER CONSIDERATIONS OF STATE POLICY.

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AGRICULTURE

Winter Cover Crops.

Editor of The Progressive Farmer:

The longer I farm the more I become convinced that what we need to do here at the South to make our soils productive is to get more vegetable matter into them by some means. Be the soil stiff clay or light sandy loam, the great majority of these soils need organic matter. The problem is how to get this organic matter without its costing us too much.

We plant cow peas to improve our soil, and when the peas are made, we cut them for hay instead of turning them under. We need the hay and cannot afford to bury a crop which is worth from fifteen to twenty dollars per ton as forage. Now this is all right provided the manure is put back on the same land from which the peas were cut. The vines are gone and nothing remains but the stubble. This stubble will help some, of course, and the organisms are there on the roots which capture nitrogen from the air, but the accumulation of vegetable matter is slow indeed. How important, therefore, that we embrace every means within our reach to add to the supply of organic matter in our soil.

We can do a great deal along this line by planting cover crops, even if it becomes necessary to turn them under next spring before they mature in order to plant something else. Is it not better to keep nature working for us all the time, building up our land, than to let the land lie idle from four to six months out of the twelve. The cost of the seed amounts to very little compared to the benefit received, especially if the crop be of a leguminous character, such as crimson clover, burr clover or hairy vetch. Even rye will help, and will flourish on land too poor to grow the former crops. On any fairly strong land however, the crimson clover will be all right. Sow it between your cotton and in your late corn, and help it along with a few hundred pounds of chemical fertilizer to the acre. The fertilizer should analyze about 10 per cent phosphoric acid and 10 per cent potash, and can be made by combining 1,600 pounds acid phosphate and 400 pounds muriate of potash to make a ton.

If you do not intend to sow wheat or oats on your cow-pea stubble, but are reserving this land for corn or cotton next spring, sow some crim-

son clover here also. All you will have to do will be to disc up the surface with a cutaway harrow, sow your seed, and brush or harrow it in lightly with a smoothing harrow. These cover crops will work all winter gathering nitrogen and carbon to enrich the land for your next year's crop.

It seems to me that we have been neglecting our opportunities along this line. One has only to ride through the country in the fall and witness the thousands of acres lying bare and losing their fertility by leaching and washing to fully appreciate this fact. And this is another benefit of the cover crop; it not only gathers fertility, but it prevents this leaching and washing.

Now, if you are going to plant a cover crop, do not put it off too long. These crops, to give the best results, should be in the ground before the first of October, and the sooner the better. We want to give them all the time possible to make growth before Christmas, and if your land is ready, why put off planting it? I have seen excellent crops of crimson clover made from seed sown in October, but early sowings are more certain of success.

The old idea that land be allowed to lay out in order to recuperate is being replaced by the newer idea of bringing up a soil by intelligent and systematic rotation. It is true that land will improve when turned out and allowed to grow up in weeds and grass; but nature's process of recuperation by the adding of vegetable matter to the soil through this natural growth is far slower than where scientific methods are applied, and the same end attained in one-fourth the time by the planting of renovating crops.

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The Forest and the Water-Supply.

The question of water-supply hinges on forests. Denuded hillsides mean floods after heavy rain, and while a mountain may be lumbered without destruction of the undergrowth and the forest floor, a sweeping fire following such operations will destroy even the humus, leaving bare rock or soil. Rain is no longer retained to be let out gradually, but dashes down in torrents, no longer a benefit, but an added agent of harm, carrying away the soil and flooding the lower valleys. The increase of damaging floods in late years is due in great measure to fires that follow reckless lumbering.—
Review of Reviews.

PREVENTIVE WORK AGAINST THE HESSIAN FLY.

Observations from the Kansas Experiment Station That Are of Value to Southern Wheat-Growers.

Editor of The Progressive Farmer:

The crop season just past has seen much damage from the Hessian fly in the Kansas wheat region, and the correspondence of the office of the entomologist of the Kansas State Experiment Station has shown that too many farmers are still unacquainted with, or do not practice, the widely published modes of lessening the destructive abundance of this, one of our chief wheat pests. As preventive measures for the preservation of next year's crop, if they are to be effective, must be undertaken at once, and as the season seems in every way to give promise of abundance of the fly in the fall planting, unless all possible measures are taken to avoid it, wheat farmers should be warned, and should enlist neighborhood cooperation to the greatest possible extent, in putting into practice such means against the pest as are warranted by experience.

As the last brood of the fly remains in the pupa or flaxseed state in the straw until near the time of the growth of the newly sown grain, it is the practice of many to burn off the stubble as soon as the grain is cut as possible. Where the wheat has been cut with the header this will kill the pupae remaining in the stubble, practically all in the field. If this is done throughout an entire neighborhood, the number of adults flies left to deposit eggs in the growing wheat will be reduced to the minimum. It has been claimed for this practice that by it all field pests are destroyed, and that a valuable coat of fertilizer in the form of the ashes will be left on the field. With respect to these, the first claim is much too broad, as few insects except the fly and its own parasites will be burned, since they are not in the stubble at this time; and no one can rightly claim that the ashes left by burning are superior to the stubble turned to add to the humus content of the soil, the reverse being true, and one of the most important of the manurial elements, the nitrogenous, being dissipated by the burning. It will thus appear that of the two methods, that of plowing under the stubble is the better; but to be of avail against the fly, it must be done early, and the

ground should then be well levelled by the use of the harrow or disk.

The exact appearance of the mother fly after harvest is determined by moisture conditions, continued dry weather tending to retard the change from the pupa. But moisture sufficient to cause the growth of volunteer wheat will also bring to maturity many of the flies, and these will proceed to deposit their eggs in the volunteer growth. While we have no evidence of a third brood in the State, it is not at all unlikely to occur if conditions favor. As the first developed flies show such a partiality for the volunteer growth, it is possible to cause them to exhaust their egg-laying capacity by providing an early growth in which to deposit, by sowing early strips around or through the fields to be resown to wheat, the growth on these strips to be thoroughly covered under before the main crop is put into the ground. The destruction of this growth should be deferred to the latest moment, that all mature flies may have the opportunity to deposit eggs therein; and this provision for the early exhaustion of the females in egg-laying is the particularly important feature of the practice of trap-strip sowing.

The experience of Kansas growers has abundantly confirmed the argument that late sown wheat is safer from the fly. The basis of this argument is that the adult insect is very readily destroyed by a sharp frost, and that wheat appearing above the ground after the first sharp frost of the season is not infested. While it is impossible to determine the proper date in advance, observing farmers can readily approximate very closely to it for their own locality, and it is ordinarily safe to seed to wheat at such a date that the new growth shall appear after the average date of the first frost, as shown by the weather service records for a given region. The records of the College Station, for example, show this average to be October 5, and this date is doubtless not far from the true one for the central counties. To the north and west it will be somewhat earlier, and to the southward of this Station, somewhat later than the date named. The practice of late seeding is the chief reliance of some of the most intelligent farmers in the Kansas wheat region, and should be given a much more general trial by growers throughout, whether in connection or not with the other suggestions given above, for there is nothing to be gained by early growth if the plants are to be practically killed by the fly before winter, as has been often the case.

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